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AMPLIFIER TRIODE

For applications critical as to microphonics.
Previously designated as RCA-10 Special.

Filament	Thoriated Tungsten	
Voltage	7.5	a-c or d-c volts
Current	1.25	amp.
Amplification Factor	8	
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	7	μμf
Grid to Filament	4	μμf
Plate to Filament	3	μμf
Maximum Overall Length		5-5/8"
Maximum Diameter		2-3/16"
Bulb		S-17
Base		Medium 4-Pin Bayonet

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

A-F POWER AMPLIFIER & MODULATOR - Class A

D-C Plate Voltage			425 max.	volts
Plate Dissipation			12 max.	watts
Typical Operation:				
Filament Voltage	7.5	7.5	7.5	a-c volts
D-C Plate Voltage	250	350	425	volts
D-C Grid Voltage	-23.5	-32	-40	volts
Peak A-F Grid Voltage	18.5	27	35	volts
D-C Plate Current	10	16	18	ma.
Plate Resistance	6000	5150	5000	ohms
Transconductance	1330	1550	1600	umhos
Load Resistance	13000	11000	10200	ohms
U.P.O. (5% second harmonic)	0.4	0.9	1.6	watts

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage			425 max.	volts
Max-Signal D-C Plate Current *			60 max.	ma.
Max-Signal Plate Input *			25 max.	watts
Plate Dissipation *			12 max.	watts
Typical Operation:				
Unless otherwise specified, values are for 2 tubes				
Filament Voltage	7.5	7.5	7.5	a-c volts
D-C Plate Voltage	250	350	425	volts
D-C Grid Voltage	-28	-40	-50	volts
Peak A-F Grid-to-Grid Volt.	220	240	260	volts
Zero-Sig. D-C Plate Cur.	8	8	8	ma.
Max-Sig. D-C Plate Cur.	110	110	110	ma.
Load Resistance (per tube)	1000	1500	2000	ohms
Effective Load Res. (plate to plate)	4000	6000	8000	ohms
Max-Signal Driving Power	2.1	2.3	2.5	approx. watts
Max-Signal Power Output	13	20	25	approx. watts

* Averaged over any audio frequency cycle of sine-wave form. ←
← Indicates a change.

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AMPLIFIER TRIODE

(continued from preceding page)

R-F POWER AMPLIFIER - Class B Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage		450 max.	volts
D-C Plate Current		45 max.	ma.
Plate Input		18 max.	watts
Plate Dissipation		15 max.	watts
Typical Operation:			
Filament Voltage	7.5	7.5	a-c volts
D-C Plate Voltage	350	450	volts
D-C Grid Voltage	-40	-53	volts
Peak R-F Grid Voltage	75	85	volts
D-C Plate Current	40	40	ma.
D-C Grid Current **	1	1	approx. ma.
Driving Power ° **	2	2.3	approx. watts
Power Output	3	4.5	approx. watts

° At crest of a-f cycle with modulation factor of 1.0.

PLATE-MODULATED R-F POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage		350 max.	volts
→ D-C Grid Voltage		-200 max.	volts
D-C Plate Current		50 max.	ma.
D-C Grid Current		15 max.	ma.
Plate Input		17.5 max.	watts
Plate Dissipation		10 max.	watts
Typical Operation:			
Filament Voltage	7.5	7.5	a-c volts
D-C Plate Voltage	250	350	volts
D-C Grid Voltage	-95	-135	volts
Peak R-F Grid Voltage	195	235	volts
D-C Plate Current	45	45	ma.
D-C Grid Current **	15	15	approx. ma.
Driving Power **	3	3.5	approx. watts
Power Output	5.5	8	approx. watts

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation #

D-C Plate Voltage		450 max.	volts
→ D-C Grid Voltage		-200 max.	volts
D-C Plate Current		60 max.	ma.
D-C Grid Current		15 max.	ma.
Plate Input		27 max.	watts
Plate Dissipation		15 max.	watts
Typical Operation:			
Filament Voltage	7.5	7.5	a-c volts
D-C Plate Voltage	350	450	volts
D-C Grid Voltage	-90	-115	volts
Peak R-F Grid Voltage	190	215	volts

**, #: See next page.

← Indicates a change.

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(continued from preceding page)

D-C Plate Current	55	55	ma.
D-C Grid Current **	15	15	ma.
Driving Power **	3	3.3	approx. watts
Power Output	9	13	approx. watts

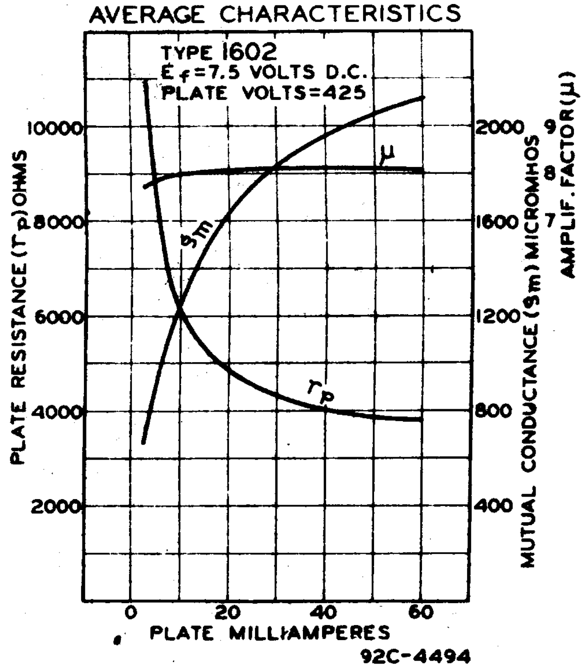
Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

** Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

For use of the 1602 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs Frequency.

OUTLINE DIMENSIONS, TUBE SYMBOL, and SOCKET CONNECTIONS for the 1602 are the same as for the 841.

AVERAGE CHARACTERISTICS



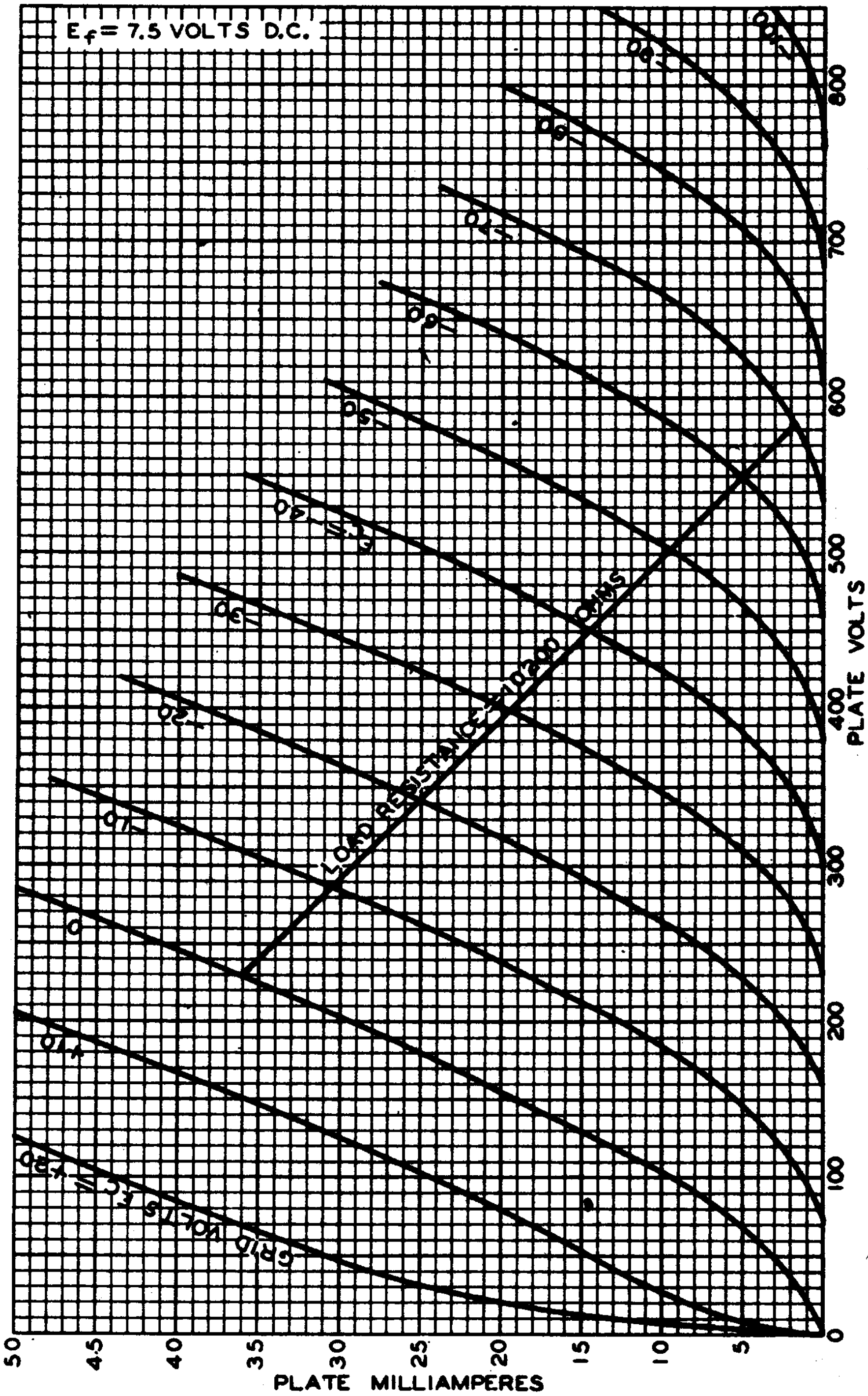
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AVERAGE PLATE CHARACTERISTICS



OCT. 10, 1935

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

92C-4493